

## **Reporting to Congress on the Vulnerability of Forests to Climate Change: The National Climate Assessment**

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**ABSTRACT:** Forests in 2100 will differ from forests as we presently know them in the United States -- a result of a changing climate, superimposed on the human imprint of land use. The National Climate Assessment (NCA) is an important resource for understanding and communicating the vulnerability of forests to climate change in the United States. The Global Change Research Act of 1990 requires a report to the President and the Congress every four years that must: 1) integrate, evaluate, and interpret the findings of the U.S. Global Change Research Program; 2) analyze the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; 3) analyze current trends in global change, both human-induced and natural, and project major trends for the subsequent 25 to 100 years. An assessment of the impacts of climate change on forests has been a part of each of the previous two National Assessments and is a chapter in the next NCA report, currently under development. Synthesizing the current state-of-the-knowledge including the future trends briefly is an important aspect of communicating the vulnerability of forests to climate change in the NCA. In addition to the areas mandated by the Act, the 2013 report will include chapters on climate change impacts in the major regions of the United States and its territories, on major crosscutting topics such as climate change impacts on interactions among energy, water and land use, and on responses to climate change through mitigation and adaptation actions. Many of these chapters also address forests and climate change. Further, the NCA aims to establish a sustained assessment process, including developing and implementing consistent approaches to tracking and evaluating climate change impacts and human responses to climate change, identifying areas for new and expanded research, and building capacity to conduct and use assessments across the US. This presentation will give an overview of the currently developing NCA process, impacts of climate change on forests synthesized by Vose et al (2012) as input to the NCA Forest Chapter, and identify opportunities for students and faculty to participate in the public review of the 2013 NCA report.

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Linda Joyce is a research scientist with the US Forest Service, Rocky Mountain Research Station and a faculty affiliate in the Forest Rangeland Watershed Stewardship Department and the Graduate Degree Program in Ecology, both at Colorado State University. For the last 20 years, her research has focused on quantifying the impacts of climate change on ecosystems, wildlife habitat, and the socio-economic implications of climate change on the forestry sector. In addition, she works with other western scientists on developing tools for natural resource managers and planners to use in considering adaptation options for climate change. She leads a research project on climate change vulnerability in the Shoshone National Forest, Wyoming. As the Climate Change Specialist with the Forest Service RPA

Assessment, she coordinates and advises on the analysis of climate change effects on renewable natural resources for the RPA Assessment. She is also the co-Convening Lead Author for the Forest Chapter in the 2013 U.S. National Climate Assessment. She has published over 100 publications, including contributions to international and national climate change assessments. She received a PhD (1981) in Range Ecology from Colorado State University.